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EXAMINER	
FLANDERS, ANDREW C	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/921,171	CHAN ET AL.	
	Examiner	Art Unit	
	Andrew C Flanders	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-69* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-69* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 August 2001* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 58 – 61 are rejected under 35 U.S.C. 102(e) as being anticipated by Birrell (U.S. Patent 6,332,175).

4. Regarding Claims 58 and 60, Birrell discloses a hard drive that contains compressed audio files, a CPU, a RAM (fig. 1 elements 102, 104 and 108) (i.e. a memory, a system CPU and at least drive comprising compressed audio data residing

in one or more audio files), a user interface that includes one or more buttons or other user input devices (col. 4 lines 14 – 15) and playing back audio due to a user input (col. 7 lines 60 – 65) (i.e. a least one function key configured to enable a user to select at least one of said audio files) a disk controller (fig. 1 element 106) (i.e. an audio controller) control programs stored in the ROM (col. 5 lines11 – 14) that include a play procedure (col. 5 lines 20 – 22) (i.e. an operating system comprising file management software, said file management software configured to manage said audio files and to permit said user to access said audio files via said at least one function key), a decompression procedure (col. 5 lines 22 – 23), the play procedure includes further information on copying data from the disk via the disk controller (col. 6 lines 12 – 16) (i.e. said operating system also configured to control said audio controller and said CPU to cause said CPU to decompress said at least one audio file selected by said user).

5. Regarding Claims 59 and 61, in addition to the elements stated above regarding claims 58 and 60 Birrell further discloses a user interface (fig. 1 element 116) that includes an LCD display (fig. 1 element 118) and the table of contents 152 can be viewed on the display 118 (col. 4 lines 66 – 67) (i.e. further comprising an LCD display configured to display a file/directory name for said audio files).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1 – 19, 31 – 32, 47, 48, 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birrell (U.S. Patent 6,332,175) in view of Jacobs (U.S. Patent 6,006,285).

8. Regarding Claims 1 and 7, Birrell discloses a CPU, a RAM, and a Hard disk that stores compressed audio files (fig.1 elements 102, 108 and 104) (i.e. a system CPU; memory and at least one drive comprising compressed audio data, said compressed audio data residing in one or more audio files), storing a table of contents and play state information in RAM (col. 5 lines 39 – 50) (i.e. a play list software program for selecting and storing a play list comprising one or more of said audio files), control programs for the system (col. 4 lines 10 – 12) (i.e. a first operating system adapted to control at least said system CPU and said memory), copying a table of contents from the hard drive (i.e. retrieving said play list), and additional data is copied from non-volatile storage medium into volatile storage medium (col. 3 lines 51 – 52) (i.e. cause said drive to read at least one audio file of said play list) processing unit 102 to decompress a portion of the audio data stored in RAM (col. 4 lines 30 – 33) (i.e. cause said system CPU to decompress the compressed audio data of said file and provide decompressed audio data). Birrell does not discloses a second operating system, said second operating system being stored in BIOS and adapted to retrieve said play list and cause said drive to read at least one said audio file of said play list, to cause said system CPU to decompress the compressed audio data of said file and provide decompressed audio data, and to cause said decompressed audio data to be stored in said memory. Jacobs

discloses a second operating mode, an audio CD mode switch that can activate a non-volatile memory region which stores system BIOS code for loading an operating system and a CD-ROM drive application associated with the operating system for audio playback (col. 1 lines 64 – 67 and col. 2 lines 1 – 5) (i.e. a second operating system, said second operating system being stored in BIOS). It would have been obvious to one of ordinary skill in the art to modify Jacobs in order to play compressed music in the manner disclosed by Birrell in place of the CD drive. Birrell discloses that one of ordinary skill in the art will recognize that any suitable non-volatile storage medium (CD) could be used in place of the hard disk used in the preferred embodiment (col. 4 lines 45 – 48). It would have been obvious to substitute the hard disk playback of compressed music for the audio CD playback as well. One would have been motivated to do so to avoid the lengthy duration of the booting process for an operating system (Jacobs col. 1 lines 34 – 36). Moreover, neither Birrell nor Jacobs disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

9. Claims 2 – 4, 8 and 10 recite a set of limitations broader than those claimed in claim 1 and thus the rejection of claim 1 reads upon these claims.

10. Regarding Claims 5 and 9, in addition to the elements stated above regarding claim 1, Birrell discloses a disk controller that controls audio file transfers from the hard

disk (fig 1 element 106) (i.e. an audio controller) and control programs for the system (col. 4 lines 10 – 12) (i.e. said operating system controlling said audio controller).

11. Regarding Claim 6, in addition to the elements stated above regarding claim 1, Birrell discloses a disk controller that controls audio file transfers from the hard disk (fig 1 element 106) (i.e. an audio controller) and control programs for the system (col. 4 lines 10 – 12) (i.e. said operating system controlling said audio controller). Birrell does not disclose using the second operating system to control said audio controller. Jacobs discloses a second operating mode, an audio CD mode switch that can activate a non-volatile memory region which stores system BIOS code for loading an operating system and a CD-ROM drive application associated with the operating system for audio playback (col. 1 lines 64 – 67 and col. 2 lines 1 – 5). Motivation to combine these elements is given above regarding claim 1.

12. Regarding Claims 11 and 12, in addition to the elements stated above regarding claim 1, Birrell discloses play-mode management logic periodically powers on the disk storage unit, copies compressed audio data from the disk storage unit into the memory buffer, and powers off the storage unit after completing the copying operation (col. 2 lines 65 – 67 and col. 3 lines 1 – 2) (i.e. booting a first operating system, creating and storing a play list comprising a list of compressed audio files residing on one or more drives of a computer system having at least a drive, a CPU and a memory and terminating said first operating system), copying a table of contents from the hard drive (col. 5 lines 42 – 45) (i.e. reading said play list), and additional data is copied from non-volatile storage medium into volatile storage medium (col. 3 lines 51 – 52) (i.e. reading

said compressed audio files from said drive based on said play list), processing unit 102 to decompress a portion of the audio data stored in RAM (col. 4 lines 30 – 33) (providing said compressed audio data to said CPU for decompressing the data of said compressed audio file into decompressed audio data) and once the audio data has been decompressed it is played back (col. 4 lines 30 – 37) (i.e. playing decompressed audio data). Birrell does not disclose booting a second operating system upon activation by a switch or storing said decompressed audio data in said memory. Jacobs discloses a second operating mode, an audio CD mode switch that can activate a non-volatile memory region which stores system BIOS code for loading an operating system and a CD-ROM drive application associated with the operating system for audio playback (col. 1 lines 64 – 67 and col. 2 lines 1 – 5) when the CD mode switch is in an on state (col. 2 lines 6 – 8) (i.e. booting a second operating system upon activation by a switch)). It would have been obvious to one of ordinary skill in the art to modify Jacobs in order to play compressed music in the manner disclosed by Birrell in place of the audio CD mode. Birrell discloses that one of ordinary skill in the art will recognize that any suitable non-volatile storage medium (CD) could be used in place of the hard disk used in the preferred embodiment (col. 4 lines 45 – 48). It would have been obvious to substitute the hard disk playback of compressed music for the audio CD playback as well. One would have been motivated to do so to avoid the lengthy duration of the booting process for an operating system (Jacobs col. 1 lines 34 – 36). Moreover, neither Birrell nor Jacobs disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of

ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

13. Regarding Claim 13, in addition to the elements stated above regarding claim 1, Jacobs discloses the main power switch of the computer boots it in normal mode (col. 2 lines 6 – 8) (i.e. a first switch, the activation of said first switch causing said first operating system to boot) and an audio CD mode switch (col. 2 lines 6 – 8) (i.e. a second switch, the activation of said second switch causing said second operating system to boot). Motivation to combine Jacobs and Birrell is given above regarding claim 1.

14. Regarding Claim 14, in addition to the elements stated above regarding claim 1, Jacobs discloses a second operating mode, an audio CD mode switch that can activate a non-volatile memory region which stores system BIOS code for loading an operating system and a CD-ROM drive application associated with the operating system for audio playback (col. 1 lines 64 – 67 and col. 2 lines 1 – 5) when the CD mode switch is in an on state (col. 2 lines 6 – 8) (i.e. a switch the activation of said switch causing said second operating system to boot). Motivation to combine Jacobs and Birrell is given above regarding claim 1.

15. Claim 15 recites a set of limitations broader than those claimed in claim 14 and thus the rejection of claim 14 reads upon this claim.

16. Regarding Claims 16 and 17, in addition to the elements stated above regarding claim 6, Jacobs further discloses an audio CD mode switch (col. 2 lines 6 – 8) (i.e. a switch, the activation of said switch causing said second operating system to boot).

17. Claims 18 and 19 recite a set of limitations broader than those claimed in claims 16 and 17 and thus the rejection of claims 16 and 17 read upon these claim.

18. Regarding Claims 31 and 47, in addition to the elements stated in the action regarding claims 20 and 38, Birrell further discloses the control programs include a decompression procedure (col. 5 lines 22 – 23), play procedure (col. 5 lines 20 – 21), said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (i.e. said audio controller being adapted to cause said drive to read said compressed audio data, to cause said system CPU to decompress said compressed audio data, thereby providing decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback. Birrell does not disclose not doing these operations unless said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of the power states S4 or S5. Jacobs discloses the audio CD mode is enabled within the main power switch of the computer is in an off state (col. 2 lines 6 – 8) (i.e. not doing these operations unless said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of the power states S4 or S5). It would have been

obvious to one of ordinary skill in the art to modify Jacobs in order to play compressed music in the manner disclosed by Birrell in place of the audio CD mode. Birrell discloses that one of ordinary skill in the art will recognize that any suitable non-volatile storage medium (CD) could be used in place of the hard disk used in the preferred embodiment (col. 4 lines 45 – 48). It would have been obvious to substitute the hard disk playback of compressed music for the audio CD playback as well. One would have been motivated to do so to avoid the lengthy duration of the booting process for an operating system (Jacobs col. 1 lines 34 – 36).

19. Regarding Claims 32 and 48, in addition to the elements stated in the action regarding claim 20, Birrell further discloses the control programs include a decompression procedure (col. 5 lines 22 – 23), play procedure (col. 5 lines 20 – 21), said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (i.e. said audio controller being adapted to cause said drive to read said compressed audio data, to cause said system CPU to decompress said compressed audio data, thereby providing decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback. Birrell does not disclose not doing these operations when said computer system is on, in sleep mode, in suspend to RAM mode, or in one of the power states S0 or S3. Jacobs discloses the audio CD mode is only enabled when

the power of the computer is in the off stated (col. 2 lines 6 –8). Therefore, when the computer is in the on state, it cannot operate in the audio CD mode (i.e. not doing these operations when said computer system is on, in sleep mode, in suspend to RAM mode, or in one of the power states S0 –S3). It would have been obvious to one of ordinary skill in the art to modify Jacobs in order to play compressed music in the manner disclosed by Birrell in place of the audio CD mode. Birrell discloses that one of ordinary skill in the art will recognize that any suitable non-volatile storage medium (CD) could be used in place of the hard disk used in the preferred embodiment (col. 4 lines 45 – 48). It would have been obvious to substitute the hard disk playback of compressed music for the audio CD playback as well. One would have been motivated to do so to avoid the lengthy duration of the booting process for an operating system (Jacobs col. 1 lines 34 – 36).

20. Regarding Claim 54, Birrell discloses storing a table of contents and play state information in RAM (col. 5 lines 39 – 50), a CPU, RAM and disk drive with compressed audio files (Fig. 1 elements 102, 104 and 108) user selections are added to a play list (col. 5 lines 1 – 2) (i.e. when said computer system is on, in sleep mode, in suspend to RAM mode, or in one of power states S0 or S3, creating and storing a play list comprising a list of compressed audio files residing on one or more drives of a computer system having at least a drive, a CPU, and a memory), and once the audio data has been decompressed it is played back (col. 4 lines 30 – 37) (i.e. playing the compressed audio files of said play list). Birrell does not disclose playing the compressed audio files of said play list when said computer system is off, in hibernate mode, in suspend to

HDD mode, or in one of the power states S4 or S5. Jacobs discloses the audio CD mode is enabled within the main power switch of the computer is in an off state (col. 2 lines 6 – 8) (i.e. not doing these operations unless said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of the power states S4 or S5). It would have been obvious to one of ordinary skill in the art to modify Jacobs in order to play compressed music in the manner disclosed by Birrell in place of the audio CD mode. Birrell discloses that one of ordinary skill in the art will recognize that any suitable non-volatile storage medium (CD) could be used in place of the hard disk used in the preferred embodiment (col. 4 lines 45 – 48). It would have been obvious to substitute the hard disk playback of compressed music for the audio CD playback as well. One would have been motivated to do so to avoid the lengthy duration of the booting process for an operating system (Jacobs col. 1 lines 34 – 36).

21. Regarding Claim 55, Birrell discloses storing a table of contents and play state information in RAM (col. 5 lines 39 – 50), a CPU, RAM and disk drive with compressed audio files (Fig. 1 elements 102, 104 and 108) user selections are added to a play list (col. 5 lines 1 – 2) (i.e. when said computer system is on, in sleep mode, in suspend to RAM mode, or in one of power states S0 or S3, creating and storing a play list comprising a list of compressed audio files residing on one or more drives of a computer system having at least a drive, a CPU, and a memory). Birrell also discloses, but does not disclose while doing when said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of power states S4 or S5, said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (i.e. reading said play

list and reading said compressed audio files from said hard drive based on said play list), processing unit 102 to decompress a portion of the audio data stored in RAM (col. 4 lines 30 – 33) (i.e. providing said compressed audio data to said CPU for decompressing the data of said compressed audio file into decompressed audio data), and once the audio data has been decompressed it is played back (col. 4 lines 30 – 37) (i.e. retrieving said decompressed audio data for playing). Jacobs discloses the audio CD mode is enabled within the main power switch of the computer is in an off state (col. 2 lines 6 – 8) (i.e. not doing these operations unless said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of the power states S4 or S5). It would have been obvious to one of ordinary skill in the art to modify Jacobs in order to play compressed music in the manner disclosed by Birrell in place of the audio CD mode. Birrell discloses that one of ordinary skill in the art will recognize that any suitable non-volatile storage medium (CD) could be used in place of the hard disk used in the preferred embodiment (col. 4 lines 45 – 48). It would have been obvious to substitute the hard disk playback of compressed music for the audio CD playback as well. One would have been motivated to do so to avoid the lengthy duration of the booting process for an operating system (Jacobs col. 1 lines 34 – 36).). Moreover, neither Birrell nor Jacobs disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

22. Claims 20 – 28, 34 – 44, 50 – 53, 56, 57 and 62 - 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birrell (U.S. Patent 6,332,175).

23. Regarding Claim 20, Birrell discloses a CPU, a RAM, a disk with compressed audio files (fig. 1 elements 102, 108 and 104) (i.e. a system CPU; memory; and at least one drive comprising compressed audio data), a ROM that stores control programs (i.e. an audio controller coupled to said system CPU, memory and drive), the control programs include a decompression procedure (col. 5 lines 22 – 23), play procedure (col. 5 lines 20 – 21), said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (i.e. said audio controller being adapted to cause said drive to read said compressed audio data, to cause said system CPU to decompress said compressed audio data, thereby providing decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

24. Regarding Claims 21 and 39, in addition to the elements stated regarding claims 20 and 38, Birrell further discloses the control programs include a power down procedure (col. 5 lines 24 – 25) and in a preferred embodiment, one predefined power down condition is data is not being played (col. 7 lines 22 – 24) (i.e. wherein said audio controller is further adapted to place said CPU in standby state when said system CPU is not decompressing said compressed audio data).

25. Regarding Claims 22 and 40, in addition to the elements stated regarding claims 20 and 38, Birrell further discloses the control programs include a play procedure (col. 5 lines 20 – 21) and once the audio data has been decompressed it is played back (col. 4 lines 30 – 37) (i.e. wherein said audio controller is further adapted to cause said decompressed audio data to be retrieved for playing).

26. Regarding Claims 23 and 41, in addition to the elements stated regarding claims 20 and 38, Birrell further discloses a main non-volatile storage unit, preferably a hard disk (col. 4 lines 6 – 7) (i.e. wherein said drive is a hard disk, removable disk, floppy disk, magnetic storage medium, optical storage medium, or IDE device).

27. Regarding Claims 24 and 42, in addition to the elements stated regarding claims 20 and 38, Birrell further discloses a compression format such as MP3 (col. 1 line 57 – 58) (i.e. wherein said compressed audio data is in MP3, WMA, AAC, or other secured compressed audio format).

28. Regarding Claim 25, in addition to the elements stated above regarding claim 20, Birrell further discloses a buss for interconnecting the aforementioned elements of the system (col. 4 lines 28 – 29) and said bus transfers digital data (col. 4 lines 30 – 35) (i.e. further comprising at least one digital computer bus, wherein said audio controller is coupled to at least one of said system CPU, memory, and drive via said digital computer bus).

29. Regarding Claim 26, in addition to the elements stated above regarding claim 20, Birrell discloses a small portable audio player (abstract) that includes a ROM with control programs (i.e. further comprising a mini-OS).

30. Regarding Claims 27 and 43, in addition to the elements stated regarding claims 20 and 38, Birrell further discloses a user interface (fig. 1 element 116) that includes an LCD display (fig. 1 element 118) and the table of contents 152 can be viewed on the display 118, and the user can select CDs and/or individual tracks to be played (col. 4 lines 66 – 67 and col. 5 line 1) (i.e. further comprising an LCD interface for generating signals to an LCD display for displaying song name, file/directory name and/or timing data).

31. Regarding Claims 28 and 44, in addition to the elements stated regarding claims 20 and 38, Birrell discloses a user interface that includes one or more buttons or other user input devices (col. 4 lines 14 – 15) and playing back audio due to a user input (col. 7 lines 60 – 65) (i.e. further comprising a plurality of function keys and a function key interface operable with said plurality of function keys, said function keys generating user commands to said audio controller through said function key interface).

32. Regarding Claims 34 and 50, in addition to the elements stated above regarding claim 20, Birrell further discloses a Hard disk that stores compressed audio files (fig.1 element 104) (i.e. wherein said compressed audio data is stored in one or more audio files on said drive), storing a table of contents and play state information in RAM (col. 5 lines 39 – 50) (i.e. said computer system further comprising a play list software program for creating and storing a play list comprising one or more said audio files).

33. Regarding Claims 35 and 51, in addition to the elements stated above regarding claims 34 and 50, Birrell does not disclose the play list software program is executable only when said computer is on. However, it is obvious that this would be the case. If

the system were not on, there would be no power available and the interrupts would not be sent (i.e. wherein said play list software program is executable only when said computer is on or in power state S0).

34. Regarding Claims 36 and 52, in addition to the elements stated above regarding claims 35 and 51, Birrell further discloses additional data is copied from non-volatile storage medium into volatile storage medium (col. 3 lines 51 – 52) and said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (i.e. wherein said audio controller is further adapted to cause said drive to read said compressed audio data based, at least in part, on said stored play list).

35. Regarding Claim 37, Birrell discloses a CPU, a RAM, a disk with compressed audio files (fig. 1 elements 102, 108 and 104) (i.e. a system CPU; memory; and at least one drive comprising compressed audio data, said compressed audio data residing in one or more audio files), storing a table of contents and play state information in RAM (col. 5 lines 39 – 50) (i.e. a play list software program for selecting a play list comprising one or more of said audio files), a ROM that stores control programs (i.e. an audio controller coupled to said system CPU, memory and drive), the control programs include a decompression procedure (col. 5 lines 22 – 23), play procedure (col. 5 lines 20 – 21), said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (i.e. said audio controller being adapted to cause said drive to read said compressed audio data, to cause said system CPU to decompress said compressed audio data, thereby providing decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official

notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

36. Regarding Claim 38, Birrell discloses a computer system with a CPU, RAM and a drive with compressed audio data (Fig. 1 elements 102, 104, and 108) additional data is copied from non-volatile storage medium into volatile storage medium (col. 3 lines 51 – 52) (i.e. reading compressed audio data from the drive of a computer system having at least a drive, a CPU and a memory) and) processing unit 102 to decompress a portion of the audio data stored in RAM (col. 4 lines 30 – 33) (i.e. providing said compressed audio data to said CPU for decompressing said compressed audio data, thereby providing decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

37. Regarding Claim 53, Birrell discloses storing a table of contents and play state information in RAM (col. 5 lines 39 – 50), a CPU, RAM and disk drive with compressed audio files (Fig. 1 elements 102, 104 and 108) user selections are added to a play list (col. 5 lines 1 – 2) (i.e. creating and storing a play list comprising a list of compressed audio files residing on one or more drives of a computer system having at least a drive,

a CPU, and a memory) said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (reading said play list; reading said compressed audio files from said drive based on said play list), processing unit 102 to decompress a portion of the audio data stored in RAM (col. 4 lines 30 – 33) (i.e. providing compressed audio data to said CPU for decompressing the data of said compressed audio file into decompressed audio data),) and once the audio data has been decompressed it is played back (col. 4 lines 30 – 37) (i.e. retrieving decompressed audio data for playing). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

38. Regarding Claim 56, Birrell discloses a CPU, a RAM, a disk with compressed audio files (fig. 1 elements 102, 108 and 104) (i.e. a system CPU; memory; and at least one drive comprising compressed audio data, said compressed audio data residing in one or more audio files), storing a table of contents and play state information in RAM (col. 5 lines 39 – 50) (i.e. a play list software program for selecting a play list comprising one or more of said audio files), a ROM that stores control programs (i.e. an audio controller coupled to said system CPU, memory and drive), the control programs include a decompression procedure (col. 5 lines 22 – 23), play procedure (col. 5 lines 20 – 21), said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (i.e. said audio controller being adapted to cause said drive to read said

compressed audio data, to cause said system CPU to decompress said compressed audio data, thereby providing decompressed audio data) and once the audio data has been decompressed it is played back (col. 4 lines 30 – 37) (i.e. playing said decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

39. Regarding Claim 57, Birrell discloses a CPU, a RAM, a disk with compressed audio files (fig. 1 elements 102, 108 and 104) (i.e. a system CPU; memory; and at least one drive comprising compressed audio data, said compressed audio data residing in one or more audio files), storing a table of contents and play state information in RAM (col. 5 lines 39 – 50) (i.e. a play list software program for selecting and storing a play list comprising one or more of said audio files), a ROM that stores control programs (i.e. an audio controller coupled to said system CPU, memory and drive), the control programs include a decompression procedure (col. 5 lines 22 – 23), play procedure (col. 5 lines 20 – 21), said play procedure determines when to copy data from the disk (col. 6 lines 14 – 16) (i.e. said audio controller being adapted to retrieve said play list and cause said drive to read said compressed audio data, to cause said system CPU to decompress said compressed audio data, thereby providing decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes

official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

40. Regarding Claim 62 Birrell discloses a hard drive that contains compressed audio files, a CPU, a RAM (fig. 1 elements 102, 104 and 108) (i.e. a memory, a system CPU and at least one storage medium comprising compressed audio data, said compressed audio data residing in one or more audio files), a user interface that includes one or more buttons or other user input devices (col. 4 lines 14 – 15) and playing back audio due to a user input (col. 7 lines 60 – 65) (i.e. at least one function key configured to enable a user to select at least one of said audio files) storing a table of contents and play state information in RAM (col. 5 lines 39 – 50), user selections are added to a play list (col. 5 lines 1 – 2) (i.e. a play list software program for selecting and storing a play list comprising one or more of said audio files), multiple control programs stored in ROM (i.e. first and second operating system), one control program includes a set of user interface procedures (col. 5 lines 15 – 19) (i.e. a first operating system configured to control at least said system CPU and said memory), a play procedure (col. 5 lines 20 – 24), and the play procedure includes play state information which includes a play list that is alterable by a user (col. 5 lines 39 – 50 and col. 5. lines 1 – 2) (i.e. a second operating system comprising file management software, said file management software configured to manage said audio files and to permit said user to access said audio files via said at least one function key), the play state information causes the

retrieves data from the disk (col. 6 lines 11 – 14) and the able of contents are copied from the hard disk (col. 5 lines 43 – 44) (i.e. said operating system also configured to retrieve said play list and cause drive to read at least one said audio file of said play list) and a processing unit 102 to decompress a portion of the audio data stored in RAM (col. 4 lines 30 – 33) (i.e. to cause said system CPU to decompress said at least one audio file selected by said user and provide decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

41. Regarding Claim 63, in addition to the elements stated above regarding claim 62, Birrell further discloses a user interface (fig. 1 element 116) that includes an LCD display (fig. 1 element 118) and the table of contents 152 can be viewed on the display 118 (col. 4 lines 66 – 67) (i.e. further comprising an LCD display configured to display a file/directory name for said audio files).

42. Regarding claim 64, Birrell discloses a CPU, RAM and a hard drive (Fig. 1 elements 102, 104 and 108), a user interface that includes one or more buttons or other user input devices (col. 4 lines 14 – 15) and playing back audio due to a user input (col. 7 lines 60 – 65) (i.e. selecting compressed audio data from a drive of a computer system having at least said drive, a CPU, and a memory, wherein said selecting step is performed by activation of at least one function key), data is copied from non-volatile

storage medium into volatile storage medium (col. 3 lines 51 – 52) (reading said compressed audio data) and causing the processing unit 102 to decompress a portion of the audio data stored in RAM (col. 4 lines 30 – 33) (i.e. providing said compressed audio data to said CPU for decompressing said compressed audio data, thereby providing decompressed audio data). Birrell does not disclose storing the decompressed data in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within playback.

43. Regarding Claim 65, in addition to the elements stated above regarding claim 64 Birrell further discloses a user interface (fig. 1 element 116) that includes an LCD display (fig. 1 element 118) and the table of contents 152 can be viewed on the display 118 (col. 4 lines 66 – 67) (i.e. further comprising displaying at least a file/directory name for said compressed audio data).

44. Regarding Claim 66, in addition to the elements stated above regarding claim 65 Birrell further discloses a user interface (fig. 1 element 116) that includes an LCD display (fig. 1 element 118) and the table of contents 152 can be viewed on the display 118 (col. 4 lines 66 – 67) (i.e. wherein said file/directory name is displayed on an LCD screen).

45. Regarding Claim 67, in addition to the elements stated above regarding claim 64, Birrell further discloses a hard disk (fig. 1 element 104) (i.e. wherein said drive is a hard

disk, removable disk, floppy disk, magnet storage medium, optical storage medium, flash media, or IDE device).

46. Regarding Claim 68, in addition to the elements stated above regarding claim 64, Birrell further discloses a compression format such as MP3 (col. 1 line 57 – 58) (i.e. wherein said compressed audio data is in MP3, WMA, AAC, or other secured compressed audio format).

47. Regarding Claim 69, in addition to the elements stated above regarding claim 64, Birrell further discloses a hard drive that includes compressed audio data (Fig. 1 element 104), a user interface that includes one or more buttons or other user input devices (col. 4 lines 14 – 15) and playing back audio due to a user input (col. 7 lines 60 – 65) (i.e. wherein said compressed audio data resides in one or more audio files and said selecting step selects at lest one of said audio files).

48. Claims 29, 30, 33, 45, 46 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birrell (U.S. Patent 6,322,175) in view of Alexander (U.S. Patent 6,380,968).

49. Regarding Claims 29 and 45, in addition to the elements stated above regarding claims 28 and 38, Birrell does not explicitly disclose a software driver for receiving interrupts generated by at least one of said plurality of function keys and for passing said interrupts to said system CPU. Alexander discloses a cursor detect circuit that receives an interrupt from a user input device, determines the nature of the interrupt and instructs the microcontroller of it (col. 7 lines 11 - 14) (i.e. further comprising a software driver for receiving interrupts generated by at least one of said plurality of function keys

and for passing said interrupts to said system CPU). One of ordinary skill in the art at the time of the invention would have been motivated to use Alexander's interrupts to alert Birrell's CPU of user inputs. Birrell does not explicitly disclose how the device processes user inputs and using interrupts as Alexander discloses would have been obvious to one of ordinary skill in the art at the time of the invention and would not require the excise of inventive skill.

50. Regarding Claims 30 and 46, in addition to the elements stated above regarding claims 29 and 38, Birrell discloses control programs for the system (col. 4 lines 11 – 12) (i.e. standard audio player software). Birrell does not disclose the CPU utilizing interrupts to control standard audio player software. Alexander discloses a cursor detect circuit that receives an interrupt from a user input device, determines the nature of the interrupt and instructs the microcontroller of it (col. 7 lines 11 - 14) (i.e. wherein said CPU utilizes said interrupts to control said standard audio player software). Motivation to combine these elements is given above regarding claim 29.

51. Regarding Claims 33 and 49, in addition to the elements stated above regarding claims 29 and 38, Birrell does not explicitly disclose a software driver for receiving interrupts generated by at least one of said plurality of function keys and for passing said interrupts to said system CPU. Alexander discloses a cursor detect circuit that receives an interrupt from a user input device, determines the nature of the interrupt and instructs the microcontroller of it (col. 7 lines 11 - 14) (i.e. further comprising a software driver for receiving interrupts generated by at least one of said plurality of function keys and for passing said interrupts to said system CPU). Motivation to combine these

elements is given above regarding claim 29. Moreover, neither Birrell nor Alexander discloses the software driver not doing these operations unless the computer system is on. However, it is obvious that this would be the case. If the system were not on, there would be no power available and the interrupts would not be sent (i.e. wherein the software driver is adapted to not do these operations unless the computer system is on, in sleep mode, in suspend to RAM mode, or in one of the power states S0 or S3).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Leem (U.S. 6,404,418), Nalawadi (U.S. 6,718,401), Chan (U.S. 6,711,631) and Yamaguchi (U.S. 6,493,828).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C Flanders whose telephone number is (703) 305-0381. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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